A SHORT MEASURE OF SEXUAL SELF CONCEPT

BY

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THESIS

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ABSTRACT

Sexual self-concept (SSC), or the self-evaluation of sexual feelings and behaviors, can influence various health outcomes, such as sexual risk taking and contraceptive use. Much of the research on SSC has been limited to highly specialized samples, and it is not yet widely present in the general social science literature, despite fundamental, far reaching implications of the construct. One likely limiting factor in broader examination of the SSC construct is the perceived complexity. Lack of availability of short measures makes assessment as part of larger batteries relatively impractical. The current study sought to establish the factor structure of a previously developed and validated 100-item, 20-facet measure of SSC (the Multidimensional Sexual Self-Concept Questionnaire, MSSCQ; Snell, 1998) and identify a brief measure suitable for regular inclusion in broader research paradigms. Using cross-validation within an existing online sample (N > 17,000), I performed initial exploratory work, estimating the factor structure of the full measure and identifying items for a short form, in 90% of the original sample (discovery N > 15,000), and subsequently performed confirmatory analyses in the remaining 10% (replication N > 1,500). The analytic approach was preregistered at https://osf.io/zgqvm/. Exploratory factor analysis (EFA) of the 20 facets suggested that a four-factor structure was present (RMSEA=0.077, TLI=0.88, mean loadings=0.7). I then chose the highest loading items from one-factor confirmatory factor analyses (CFA) within each of the four factors and identified a short form with 16 items (four per factor) with good psychometric properties from item response theory (IRT) evaluations. We performed EFA on the final identified set of 16 items to confirm the maintenance of the four-factor structure in both the discovery sample as well as the set-aside independent replication sample (N > 1,500) I identified and replicated the structure of a short form measure of four factors of SSC in a large online sample. Future research will explore the overlap and differences between SSC and potentially related gender, sexuality, and personality constructs. The availability of an efficient assessment of SSC will allow a greater

diversity of research into the development of this critically important, and yet historically under-investigated, identity construct.

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Introduction

Sexual Self-Concept (SSC), a person's evaluation of their own sexual thoughts and feelings, is an integral part of physical and psychological well-being. SSC has been suggested to play a role in mental health, interpersonal relationships, and risk-taking (Volman et. al, 2007; Breakwell et. al, 1997). Despite the centrality of SSC to the universal human experience, there is relatively little quantitative psychological research into the construct. Notably, the existing literature on SSC includes no established, efficient, validated form of assessment. Much of the existing SSC research is qualitative in nature (Wagner, J., & Rehfuss, 2008; Rashidian & Hussain, 2014), uses highly selected samples (Turner & Mo, 1984; Pai et.al, 2010; Ziaei et.al, 2013), or focuses on very narrowly defined aspects within the broad construct of SSC (Breakwell & Millward, 1997; Andersen & Cyranowski, 1994; Blashill et. al, 2016). One of the most widely used measures of SSC is the Multidimensional Sexual Self-Concept Questionnaire (MSSCQ). The MSSCQ is a 100-item self-report measure designed to evaluate 20 facets of SSC (Snell, 1998). In this paper, I identified the factor structure of the 20 facets within the full MSSCQ and establish a short form appropriate for use in a variety of psychological research contexts.

Since there are a considerable number of concepts which assess sexuality, I consider explanation of SSC's distinction warranted for the purpose of further understanding. In the interest of brevity, I will focus on two of the most commonly considered sexuality-related constructs: sexual orientation and gender identity. First, SSC is not sexual orientation. Whereas sexual orientation refers to characteristics (usually gender) of the target of an individual's sexual desire (Klein et.al, 1985), SSC addresses how people view and engage in relation to them. For example, individuals might view themselves as sexually optimistic, assertive, or satisfied; all of which are universal experiences irrespective of sexual orientation. Extant findings show that at best the relationship between these two constructs are inconsistent, supporting that it may be

inappropriate to use one to inform the other. In a study of 226 women with physical disabilities, Sweeney and colleagues (2015) report that sexual orientation, when dichotomized (1 = sexual minority; 2 = heterosexual), was a significant correlate with sexual self-schema ($r = -.197$, $p < .01$). Further, Parent et. al (2015) identified among 346 women that sexual orientation was not directly correlated with sexual self-concept ($r = -0.02$), but instead is mediated by sexual exploration. Although SSC may correlate with sexual orientation it is empirically and theoretically distinct.

Second, SSC is different from gender identity, which is how individuals view themselves as male, female, or a blend of both or neither (Holmes, 2007). Unlike SSC, which is narrowly focused on sexual thoughts, gender pertains to how individuals internalize or externalize their perceptions of masculinity and femininity (e.g. apparel, mannerisms, and interests; Cameron, 1998). Like sexual orientation, studies indicate that the relationship between gender and SSC is inconsistent. For example, in one study involving 439 university students, researchers reported small yet significant gender effects on 2 out of the 3 subscales for sexual self-schema ($p = .0001$, $\eta 2 = .059$ $\eta 2 = .198$; Hill, 2007). Whereas in another, Snell Jr. (2001) found that among 509 participants, men and women self-report of their SSC were similar on 14 out of the 20 facets from the MSSCQ ($F < 3.95$, Archdeacon, 1994). He notes that gender did not directly influence SSC. It is evident that gender identity is relevant to SSC, but despite this, gender identity is only related, not synonymous to sexual feelings and thoughts. In summary, while SSC presents similarities to other concepts related to sexuality, it is unique and not exclusive to gender or sexual orientation.

Current Limitations in Assessment of SSC

The MSSCQ (Snell, 1998) is one of the best validated (Ramezani, 2013), reliable (Hucker, 2010), and comprehensive tools for the assessment of SSC (Rostosky, 2008). Given its uniqueness and utility, MSSCQ is a common target for studies of sexual health. More specifically, researchers have used its framework to study the sexual functioning of those with illnesses that influence the quality of life (Anderson,1999), individual differences in value systems (Breakwell & Millward, 1997), and overall sexual well-being (Sadaat et.al, 2015). Considering the diverse range of questions addressed, it is necessary to ensure that a measure of sexual attitudes and feelings is as accurate as possible. Even so, past studies which have assessed SSC have suffered from several common limitations.

Despite its utility, psychological researchers have limited examination of the measure within the general population. One likely limiting factor is its length. As an 100-item measure, the MSSCQ can be tedious to participants and when short measures are unavailable, risk of poor response quality may discourage researchers to attempt assessment of SSC (Herzog & Bachman, 1981). Another issue may be its perceived complexity in interpretation due to its high dimensionality. This has often led researchers to examine associations between outcomes and SSC at the equivalent 'facet' level (e.g. Parent et al., 2015), focusing on a subset of available narrowly defined constructs. Research suggests that these facet-level assessments demonstrate higher order structure (Deutsch, Hoffman, & Wilcox, 2013; Ramezani et. al, 2013).

Focus on Behaviors rather than Attitudes

First, although there are other nationally recognised measures which partly take into account sexual feelings and attitudes (e.g. National HIV Surveillance System core questionnaire (NHSS) and Midlife in the United States sexuality measure (MIDUS)) their items are mainly concerned with identifying adverse outcomes and categorical sexual behaviors rather than understanding continuous sexual attitudes which drive behavior. For example, within the NHSS,

participants are assessed by number of sexual partners, frequency of condom use, and willingness to be screened for sexually transmitted diseases. Likewise, within MIDUS, items which assess sexuality measure a person's pain or pleasure during their sexual encounters, sexual frequency, and overall rating of their sexual life. The information from these measures provide knowledge as to what populations are potentially more at risk and symptomatic explanations as to why they are at risk, but not as to how. In contrast, measures of SSC such as the MSSCQ is able to delve into the dimensionality of sexual thoughts and target motivational factors of sexual behavior.

Lack of Large, General Population Samples

Secondly, researchers have typically focused on small, highly specific samples limited by narrow geographic regions (e.g., Ziaei et.al, 2013), physical health conditions (e.g., Salehi et. al, 2015; Andersen,1999), or mental disorders (e.g., Volman et. al, 2007). For instance, in a study which assessed SSC as a possible predictor for sexual functioning, researchers focused on Irish women with diabetes (N=225; Burton & Livingstone, 2017). In another case, Saadat et. al (2015) assessed whether SSC could predict sexual wellbeing in married Iranian women (N=160) with rheumatoid arthritis. While studies with novel participants can be informative, they lack samples able to generalize our understanding of SSC on a global scale. Any measure of SSC within such a study faces the threat of overfitting its framework to a given sample and may result in insufficient generalizability. In contrast, the current study draws from a much larger, unrestricted online sample to assess the dimensionality of a broad measure of SSC.

Questionnaire Biases

Another issue is that previous studies have used items that assumed aspects of a participant's sexuality. Namely, this assumption involves sexual orientation and gender identity. In various studies that evaluate gender differences in SSC, merely is it mentioned that participants have the option to identify as other than male or female (Rostosky, 2008; Breakwell, 1997; Winter, 1988). Furthermore, measures often rely on the assumption of heterosexual

orientation. For example, in one study researchers asked Latina teenagers only about their sexual experiences with boys (e.g. *When I flirt with a guy, I like to feel him up*; O'Sullivan, 2006). This format of item creation is problematic because it results in the exclusion of the LGBTQ+ population. The United States is comprised of at least 10 million people who identify within this group. Furthermore, 19 million people report they have engaged in same-sex relations and 26 million report same-sex attraction (Gates, 2011). Previous studies may possess bias due to sampling error or lack of appropriate response options for participants. Sexuality can easily become a convoluted topic and in using the MSSCQ, researchers can more readily partition the relation between gender, orientation, and sexual feelings and attitudes, since the measure's items are phrased without such biases.

Inadequately Abridged Scales

Researchers have often examined various facets of the MSSCQ, but few have assessed all 20. Instead, studies have tended to focus on select lower order facets to represent SSC. For example, Rostosky and colleagues (2008) selected four of the 20 available facets from the full MSSCQ for use within an adolescent sample (N= 388), although they did not specify why those four facets were selected. From the 20 items within these four facets (sexual self-esteem, sexual optimism, sexual anxiety, and sexual self-monitoring), they further reduced the measure to 16 items arranged into two factors identified within the sample in which they were to be applied. This example highlights a common issue within abridged as well as full SSC measures, and that is the lack of methods transparency (Flake & Fried, 2019). This can harm reliability and replicability. As demonstrated, the MSSCQ has been used on small, selected samples and typically without reference to the full construct content, risking misguided conclusions.

The current study

SSC is important for understanding not only sexuality, but a myriad of other health outcomes related to overall well-being. To evaluate this concept, researchers have tended to assess niche samples, assume sexuality membership, and measures which lack appropriate transparency regarding their formation. This has left a need for an efficient measure appropriate for use in a variety of samples and research contexts. To address this, the current study had three goals: (1) to establish the existence of a higher order structure among the original 20 facets; (2) to identify a short form of the MSSCQ that provides adequate information on each of the identified factors; and (3) to examine if the short-form structure replicates within another sample. In the study I confirmed the existence of a 4 factor higher order structure and identify 16 items which maintains the complexity and information provided from the original. In doing so, I created a short form that is simple and convenient to administer in future psychological studies.

Methods

The data analyzed in the current project had been previously collected and made public by an independent source. Prior to our accessing the data, I completed a pre-registration document available at [https://osf.io/zgqvm/]. Deviations from the pre-registered analytic plan are noted in the description of the Methods.

Participants

Data were acquired from the Open Source Psychometric Project (2014), a website that offers a wide selection of psychological tests to the general public. When data were downloaded on October 25, 2017, there were 17,685 respondents between the ages of 13 and 99 (M=26, SD=11), but I eliminated 14 due to unreasonable responses (e.g. reporting ages above 100). We split the data into a Discovery sample of 90% of the total participants (N = 15,897) and a Replication sample of the remaining 10% of the total participants (N = 1,767). The average age in the Discovery sample was 26.2(SD = 11, range = 13- 99), with 56% of participants self-reporting their gender as female, 41% male, 2% other, and 1% missing. The average age in the Replication sample was 27.9(SD = 12.02, range = 13 - 99), with 59% female, 39% male, and 2% other. No other demographic information was collected. (Although our pre-registration indicated that relationship status would be available, it in fact was not.)

Measure

The Multidimensional Sexual Self-Concept Questionnaire (MSSCQ) is a 100-item self-report measure which is intended to assess 20 facets of sexual feelings and attitudes. Each facet consisted of 5 items rated on a 5-point scale that ranged from 1 (not at all characteristic of me) to 5 (very characteristic of me; Snell, 1998)**.** The facets and their corresponding items are depicted in Appendix A.

Statistical Analyses

*Confirmatory factor analyses within each facet***.** I first sought to establish that the five questions within each of the predefined 20 facets in the full 100-item MSSCQ could be reasonably considered to represent a single factor. Within the discovery sample, I fit a 1-factor confirmatory factor analysis (CFA) model to all five items within each of the 20 facets (Rosseel, 2012). To handle missing data, the model used listwise deletion. I examined several fit indices, which included the Tucker Lewis Index (TLI), the Root Means Square Error of Approximation (RMSEA), as well as the factor loadings. TLI ranges from 0 to 1, with values above 0.9 indicative of good fit (Hu & Bentler, 1999). For RMSEA, a value ≤ 0.08 is generally taken to represent good fit (Lomax & Schumacher, 2004). Factor loadings above ±0.3 would be considered satisfactory (Hair, et al. 1998).

Exploratory factor analysis of the twenty facets. After establishing the single factor model as reasonable within each facet, we computed average item scores within each facet. Missing data were handled using the average of the remaining items. I performed very simple structure and parallel analysis on these scores to identify the likely number of higher-order factors (psych:vss, psych:fa.parallel, Revelle, 2018). I conducted exploratory factor analysis (EFA) on the average facet scores to identify the loadings of the facets on each of the number of factors implied by the VSS and parallel analysis results. Like before, a TLI value above 0.9, an RMSEA value ≤ 0.08, and factor loadings at or above +/- 0.3 were taken to represent good fit. Facets were assigned to the factor on which they loaded highest and average factor scores were examined for correlation with age and mean differences between genders. Then, we examined

the Tucker's Congruence Coefficient as an index of similarity of facet-factor loading patterns between genders. Estimates of similarity greater than or equal to 0.85 were taken to indicate consistency between genders (Lorenzo-Seva et.al, 2006).

Selection of short form items to represent identified factors. Following the establishment of a 4-factor EFA higher order structure, I performed a CFA in which the defined latent variables were the 4 factors and their indicators the items (which correspond to their underlying facets). I then identified the highest loading items within each facet to serve as a representative within the short form measure. This process ensured inclusion as well as maintenance of the original structure. After, I conducted an EFA of identified short-form items to confirm maintenance of the higher order factor structure. In the event an item loading were low (i.e. <0.3; Hair, et al. 1998) or cross loaded onto more than one factor, it would be replaced with the second highest item within its facet to serve as a representative, the fit properties were reevaluated and so on and so forth until adequate metrics were achieved.

Evaluation of Item Response properties. Since the goal is to increase utilization within a more common domain I wanted to ensure the item responses could discriminate between those who were high, low, or moderate for SSC. To do so, I explored the following Item response theory (IRT) curves: item response category curve (IRCC), item information curve (IIC), and test information curve (TIC). Given that the items of the MSSCQ are polyotonous, in that there are greater than two possible response options, I evaluated IRT properties using the graded response model (GRM; Rizopoulos, 2006) which produced curves for each of the factors. The first curve, the IRCC, assessed the likelihood of endorsing a response at various levels of the factor (i.e. item coverage). IRCC values range from 0 to 1, with peaks dispersed throughout all levels of the factor indicative of good fit. As a more quantitative approach, I also examined the discriminations which denote the strength of an item in distinguishing those who are high (1.35-1.69), low (0.35-0.64), or moderate (0.65-1.34) for a given factor (Baker,2001).

The second curve, the IIC, assessed how well and precisely each item measured the latent trait at various levels of the factor and the third curve (TIF) formed an aggregate of these items to measure the amount of information provided by the responses about the mean level of the factor. Adequate test information was set at a peak curve height of 4, approximately equal to a conditional reliability of at least 0.8 (O'Connor, 2019). In the event that this threshold was not met, I would examine the IIC for all the items of that particular factor, including those not selected for the short-form, to choose an item able to increase the test information.

Comparison of Short Form with Full Form MSSCQ. After I identified the final version of the MSSCQ short version, I compared the average factor scores with that of the original. The aim was to conclude whether the short version captured the variance from the full form. To do so, I examined the correlation coefficients with the goal of identifying values between 0.50 and 1.0, indicative of a strong relationship.

Replication of short form in an independent sample. After, I assessed whether similar conclusions of the short-form framework would arise in the replication sample (N=1,767). I first conducted EFA of the short form items to evaluate the factor structure, as well as the factor loadings, RMSEA, and TLI. Then, I performed a CFA and IRT analysis on each factor to confirm the properties observed in the larger sample. I then estimated correlations between factor scores and age, and gender. Lastly, I examined the correlations between average factor scores for the replication short form sample and the full form MSSCQ sample. The thresholds mentioned for the discovery sample remained the same for the replication sample.

Results

Confirmatory factor analyses within each facet. Supplemental Table S1 presents the 20 facet measurement models with their standardized path coefficients. All items loaded strongly on their assigned facets, with the minimum loading observed at 0.46. Overall, the TLI (range =0.91 - 1.0, M = 0.98, SD = 0.02) of each facet indicated adequate fit of a single factor model within each facet. However, the RMSEA for approximately half of the facets suggested an ill-fitted model, with values as high as 0.34 (range = 0.02 - 0.34, M = 0.13, SD = 0.08). Facets with high RMSEAs (>0.08) included sexual anxiety (0.128), sexual self-consciousness (0.12), sexual motivation to avoid risk (0.12), sexual locus of control (0.12), sexual assertiveness (0.14), sexual optimism (0.24), sexual self-problem self-blame (0.22), sexual self-monitoring (0.34), sexual self-management (0.14), sexual satisfaction (0.11), sexual power (0.12), and sexual self-schema (0.30). Upon further investigation into these specific facets, I found redundancy among some of the items, which can contribute to poor RMSEA (Martin-Löf, 1974). Seeing as all other indices of fit were adequate, I chose to proceed.

Exploratory factor analysis across twenty facets. As shown in Supplemental Figures S1 and S2, Very Simple Structure and Parallel Analysis indicated a 4-factor model for the 20 facets. Results of the 4-factor EFA of average facet scores are shown in Table 1. Overall, the highest loadings for each facet were strong, with values ranging from ±0.31 to ±0.86 (M =0.50, SD =0.38). Conversely, cross-loadings were substantially weaker, ±0.44 (M =0.17, SD =0.23). Model fit indices were moderate, with an RMSEA = 0.07 and TLI=0.88. A 3-factor EFA did not show improved fit (RMSEA = 0.09; TLI = 0.82). A 5-factor EFA showed improved fit (RMSEA = 0.07; TLI = 0.91) but produced low loadings on the fifth factor (range = -0.04 - 0.58) and extensive cross-loadings. Full results of the 3- and 5-factor EFA solutions are presented in Supplemental Tables S2A and S2B. From these results I surmised a 4-factor model was optimal. I then named these factors based on the collective theme implied by their underlying facets: Sexual Satisfaction, Sexual Desire, Sexual Agency, and Sexual Anxiety. Table 1

presents the loadings of each average facet score on each item, as well as the correlations between resulting factors. Table 2 provides descriptive statistics for each of the factors. For all four factors (Sexual Satisfaction, Sexual Desire, Sexual Agency, and Sexual Anxiety) congruences were high between women and men (0.77, 0.96, 0.98, and 0.76, respectively), women and other gender identified (0.91, 0.90, 0.94, and 0.98, respectively), and men and other gender identified (0.91, 0.95, 0.98, and 0.98, respectively).There were two discrepancies between males and females regarding Sexual Desire and Sexual Anxiety in which the congruences were moderate at 0.77 and 0.76. However, when I inspected both groups, I found that the same facets loaded onto the four factors but at slightly different loadings (factor loadings by gender are presented in Supplemental Tables S3A-S3C).

Selection of short form items to represent identified factors. After, I performed CFA on the four factors, and chose the 20 highest loading items (1 from each facet) to serve as representative for the short form measure. Item 62, the sexual self-efficacy facet, and item 59, the sexual depression facet, adequately loaded onto the Sexual Satisfaction factor but were discarded in interest to maintain equally 4 items per factor. Item 64, motivation to avoid, was discarded because it exhibited poor loading (0.295) within Sexual Desire. Item 65 (sexual locus of control) was discarded due to its redundancy in wording with sexual power, the latter of which loaded higher within the Sexual Anxiety factor.

I analyzed the remaining 16 items through EFA to determine if they would map onto the higher order structure I found in CFA. 2 out of the 16 items were problematic in that they exhibited low loading and or cross-loadings with other factors. These weak items were switched with the next highest loading items within their respective facets and EFA was performed again to test for structural maintenance. This process was continued for 4 iterations until I settled on the final short form shown in Table 3. For more information regarding the iterations refer to our pre-registered report [https://osf.io/zgqvm/].

Evaluation of Item Response properties. The IRCC's of the 16 items had peaks dispersed at high, low and moderate levels of each of the four factors (Supplemental Figures S2-5). Each item displayed moderate to high discrimination (M = 2.23, SD = 1.06). Likewise, TIF curves for each factor met or exceeded the threshold of test information about the mean (M = 5.07, SD = 1.86; Figures 1A-D).

Comparison of Short Form with Full Form MSSCQ. Results showed that the full form and short form factors were significantly correlated (range= 0.82 - 0.95; Table 4).

Replication of short form in an independent sample. Replication of the above-mentioned analysis resulted in data comparable to that of the original. Factor analysis of the 16 items generated sufficient loadings for both EFA (M = 0.62, SD = 0.12, TLI = 0.97, RMSEA = 0.04; See Table 3) and CFA (M= 0.73, SD = 0.14; Table 5). Correlation with the full form was high, but slightly less than that of the discovery sample (range = 0.82 - 0.90; Supplement s Table 4).

Discussion

The aim of the current project was to design a concise version of the MSSCQ that maintained the framework and test information from its original lower order structure. The major goal was realized in that we identified 4 factors from the initial 20 facets of the MSSCQ. Our factor analysis results suggest that these factors can best be represented by 16 items (Table 3). This is further supported by IRT analysis which indicated adequate to exceptional test information within both the discovery and replication samples. Although, other studies have used factor analysis to inform their measures of SSC, IRT is sparsely employed. Future studies may benefit from the current findings in understanding other effective psychometric practices. Additionally, the findings encourage future SSC studies to use the MSSCQ in its entirety due to the substantial decrease in questionnaire length. In doing so, instead of using arbitrary facets, conclusions will be based on a more comprehensive view of sexual thoughts and feelings. Despite the advances made by the current study, we must note on a few of its limitations.

First, the data provided for this study originates from an online survey in which individuals who volunteered were not compensated for their time. The survey granted participants a level of anonymity, seeing that the only demographic information requested was age and gender. Given the particular individuals who may have access to the internet and seek out unsolicited questionnaires, we can assume that this self-selection may present results that are unrepresentative of the broader population. However, the current literature concerning SSC has tended to focus on niche samples, notably those with mental (e.g., Volman et. al, 2007) or physical disorders (e.g., Salehi et. al, 2015; Andersen,1999). Since the online survey did not select for or against a specific group, despite the method of data acquisition, it is likely that the information provided is more representative than that is studied in the existing literature.

Second, our study lacks multiple approaches to assess the validity of the MSSCQ short version. Even so, our samples are quite large in comparison to the number of participants customarily assessed in SSC studies. As mentioned earlier, researchers tend to focus on highly

specific populations, which often results in the assessment of smaller sample sizes (N < 300; e.g., Burton & Livingstone, 2017; Saadat et. al, 2015). To our knowledge, this study is among the first to investigate the psychometric properties of a measure of SSC within multiple samples of such a scale.

To construct a better assessment tool for SSC, one conclusion that should be drawn from the current study is the need for further validation methods. Previous research has designed measures of SSC but have been unable to identify its psychometric distinctiveness from other tools which assess individual differences; our study is no exception. Going forward, a practice that stands to mitigate this issue is to conduct comparative analysis of previously established and reliable measures whose concept is unrelated to sexual thought. Personality is a reasonable candidate for this task since it fulfills the aforementioned requirements above. More specifically, the Big Five Inventory-2- extra short (BFI-2-XS), is a 15 item self-report measure of personality, that if combined with the 16 item MSSCQ short form (MSSCQ-SF), would be feasible to administer. However, one form of validation is not sufficient. There is also need for comparison of the MSSCQ-SF to other measures of SSC. There are a few measures which have been shown to be reliable (e.g., Breakwell & Millward, 1997), highly dimensional (e.g., Vickberg, 2005), and comprehensive (e.g., Deutsch et.al, 2014) in their assessment of SSC. Identifying if the MSSCQ-SF is similar to these measures could prove informative. The MSSCQ-SF has the potential to be a highly used measured of SSC, capable of giving comprehensive results which can aid in the better understanding of behavioral outcomes related to public health. However, greater investigation into its psychometric properties is necessary to proceed.

Tables and Figures

Table.1 Four Factor Solution from EFA in Discovery Sample

Facet	Sexual Satisfaction	Sexual Desire	Sexual Agency	Sexual Anxiety
Sexual Anxiety	-0.43	-0.07	0	**0.59**
Sexual Efficacy	**0.74**	0.09	0.12	-0.04
Sexual Self Conscious	0.35	**0.46**	0.15	0.07
Sexual Motivation to Avoid	0.19	**-0.31**	0.15	0.17
Sexual Locus of Control	-0.21	0.21	-0.05	**0.39**
Sexual Preoccupation	-0.08	**0.69**	-0.03	0.14
Sexual Assertiveness	**0.36**	0.31	0.07	0.22
Sexual Optimism	**0.34**	0.23	0.13	0.26
Sexual Self-Problem	-0.24	-0.02	**0.73**	0.08
Sexual Self-Monitor	0.05	0.19	0.08	**0.45**
Sexual Motivation	0.04	**0.85**	0.03	-0.1
Sexual Self-Management	-0.02	0.09	**0.86**	**-0.07**
Sexual Self-Esteem	**0.86**	0.13	0.03	0.01
Sexual Satisfaction	**0.85**	-0.05	-0.02	-0.06
Sexual Power	-0.06	0.16	-0.19	**0.46**
Sexual Self-Schema	0.29	**0.48**	0.09	-0.01
Sexual Fear	0.09	-0.25	0.03	**0.56**
Sexual Self-Prevention	0.29	-0.16	**0.54**	0.15
Sexual Depression	**-0.59**	0.09	0.03	0.44
Sexual Personal Control	0.26	-0.01	**0.63**	-0.07
Factor Intercorrelations				
Sexual Satisfaction	1			
Sexual Desire	0.32	1		
Sexual Agency	0.47	0.39	1	
Sexual Anxiety	-0.2	-0.12	-0.03	1

Table 2. Factor Descriptive Statistics

	Discovery				Replication		
Factor	M	SD	r(age)		M	SD	r(age)
				Overall			
Sexual Agency	3.55	0.85	0.11		3.53	0.87	-0.12
Sexual Anxiety	2.34	1.00	-0.05		2.30	1.00	-0.06
Sexual Desire	3.66	0.94	-0.08		3.60	0.94	0.09
Sexual Satisfaction	3.27	1.07	0.01		3.29	1.08	0.01
				Male			
Sexual Agency	3.52	0.62	-0.12		3.65	0.89	-0.12
Sexual Anxiety	2.53	0.70	-0.05		2.27	0.98	-0.05
Sexual Desire	3.40	0.65	0.12		3.82	0.84	0.12
Sexual Satisfaction	3.10	0.78	0.03		3.21	1.08	-0.00
				Female			
Sexual Agency	3.41	0.61	-0.07		3.46	0.85	-0.07
Sexual Anxiety	2.41	0.67	-0.09		2.30	1.03	-0.12
Sexual Desire	3.26	0.70	0.06		3.47	0.97	0.06
Sexual Satisfaction	3.27	0.75	0.02		3.36	1.06	0.05
				Other			
Sexual Agency	3.36	0.70	0.03		3.49	1.12	-0.08
Sexual Anxiety	2.55	0.77	0.15		2.65	0.93	-0.26
Sexual Desire	3.10	0.73	0.11		2.96	1.09	0.18
Sexual Satisfaction	3.11	0.79	0.01		2.91	1.26	0.16

Figure 1A-D. **Test Information Curves.** *Solid lines represent the discovery sample and the dashed lines represent the replication sample*

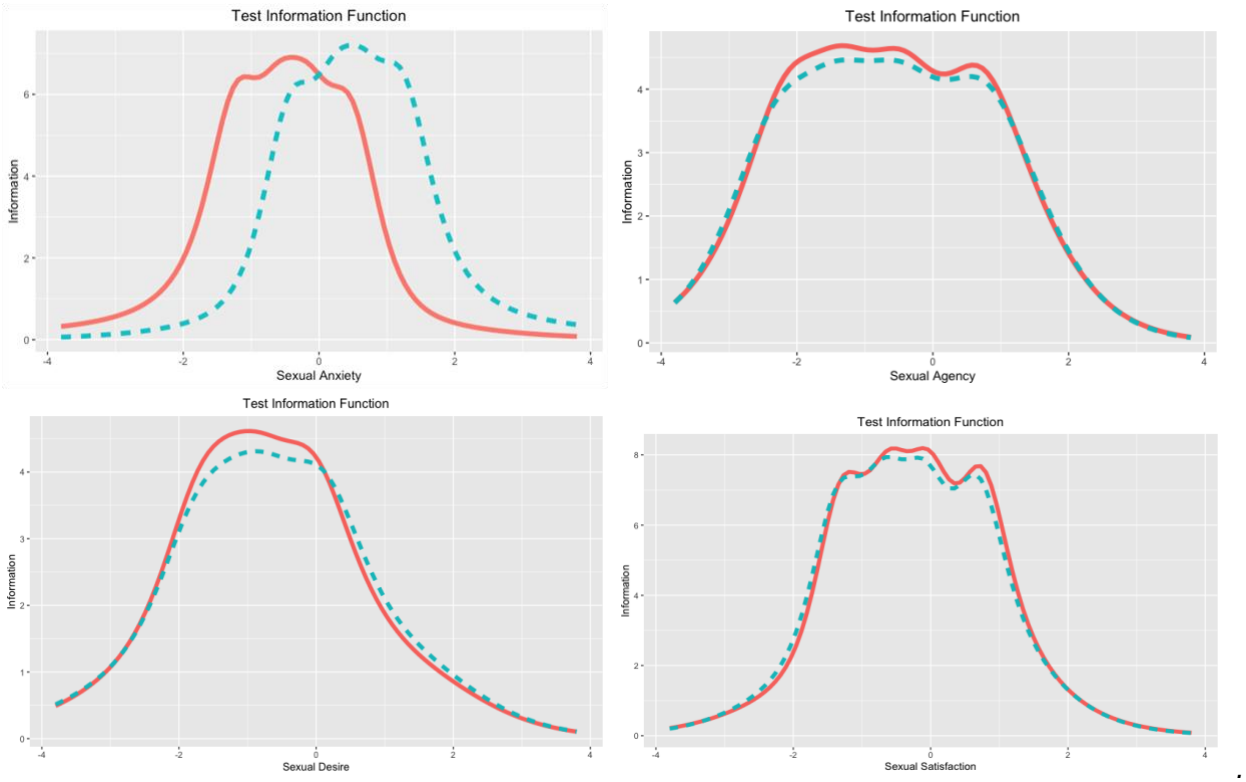


Table 3. Short-form Item loadings for 4 factor EFA in Discovery and Replication Samples

Table 3. Short-form Item loadings for 4 factor EFA in Discovery and Replication Samples

	Discovery				Replication			
Item	Sexual Satisfaction	Sexual Desire	Sexual Agency	Sexual Anxiety	Sexual Satisfaction	Sexual Desire	Sexual Agency	Sexual Anxiety
67.I do not hesitate to ask for what I want in a sexual relationship	**0.44**	0.44	0.01	-0.15	**0.47**	0.24	0.02	-0.12
28.I believe that in the future the sexual aspects of my life will be healthy and positive.	**0.53**	0.53	0.08	-0.05	**0.63**	0.07	0.09	0.01
73.I have positive feelings about the way I approach my own sexual needs and desires	**0.86**	0.86	-0.01	-0.02	**0.82**	0.02	0.01	-0.05
94.I am satisfied with the sexual aspects of my life.	**0.74**	0.74	0.01	-0.06	**0.73**	-0.16	0.00	-0.07
23. I am very aware of my sexual motivations and desires	0.32	**0.32**	0.08	-0.09	0.33	**0.36**	0.11	-0.07
66. I'm constantly thinking about having sex.	0.02	**0.02**	0.00	0.15	-0.06	**0.65**	0.01	0.10
51.I have a desire to be sexually active.	-0.06	**-0.06**	0.00	-0.11	-0.05	**0.76**	0.03	-0.08
36.Not only would I be a skilled sexual partner, but it's very important to me that I be a skilled sexual partn	0.20	**0.20**	0.05	-0.06	0.30	**0.53**	0.02	0.04
69.If I were to develop a sexual problem, then it would be my own fault for letting it happen	-0.16	-0.16	**0.70**	0.06	-0.14	0.02	**0.71**	0.06
92.If I developed a sexual disorder, my recovery would depend on how I myself dealt with the problem.	-0.01	-0.01	**0.74**	-0.05	0.02	0.02	**0.70**	-0.04
78.I will be able to avoid any sexual problems, if I just take good care of myself.	0.15	0.15	**0.60**	-0.05	0.22	-0.04	**0.59**	0.03
80.The main thing which affects the sexual aspects of my life is what I myself do.	0.18	0.18	**0.52**	0.08	0.05	-0.01	**0.58**	-0.04
70. I'm concerned about how the sexual aspects of my life appear to others.	-0.04	-0.04	0.05	**0.53**	0.04	0.19	0.01	**0.63**
81. I feel nervous when I think about the sexual aspects of my life.	-0.11	-0.11	-0.01	**0.78**	-0.17	-0.06	0.05	**0.69**
95. My sexual behavior is mostly determined by people who have influence and control	-0.08	-0.08	-0.07	**0.35**	0.03	0.20	-0.13	**0.48**
37. I have a fear of sexual relationships.	0.02	0.02	0.00	**0.70**	-0.06	-0.35	0.00	**0.58**
Factor Interrcorrelations								
Sexual Satisfaction	1.00				1.00			
Sexual Desire	0.25	1.00			0.27	1.00		
Sexual Agency	0.22	0.15	1.00		0.31	0.17	1.00	
Sexual Anxiety	-0.69	-0.03	-0.24	1.00	-0.64	-0.17	0.01	1.00

Table 4. Correlation Coefficients of Full and Short Form

	Discovery	Replication
Factor		
Sexual Agency	0.95 [±0.01]	0.90[±0.02]
Sexual Anxiety	0.96 [±0.00]	0.83[±0.03]
Sexual Desire	0.82 [±0.01]	0.89[±0.02]
Sexual Satisfaction	0.87 [±0.01]	0.82[±0.03]

Values in brackets represent confidence intervals. $P < 2.2 \times 10^{-16}$

Supplemental Material

Supplement Table 1. Confirmatory Factor Analysis of the Facets Within the Replication Sample

Item	T1	T2	T3	T4	Loading
		Sexual Anxiety			
1	-0.55	0.07	0.50	1.14	0.76
21	-0.68	-0.08	0.36	1.01	0.85
41	-0.51	0.06	0.41	1.01	0.88
61	-0.65	-0.05	0.34	1.00	0.88
81	-0.42	0.16	0.53	1.11	0.88
		Sexual Self-Efficacy			
2	-1.24	-0.63	-0.16	0.61	0.77
22	-1.28	-0.64	-0.09	0.66	0.83
42	-1.28	-0.69	-0.15	0.62	0.79
62	-1.45	-0.79	-0.20	0.63	0.86
82	-1.45	-0.82	-0.26	0.53	0.89
		Sexual Self-Conscious			
3	-1.75	-1.15	-0.69	0.07	0.81
23	-1.74	-1.17	-0.69	0.10	0.87
43	-1.63	-1.04	-0.45	0.50	0.52
63	-1.75	-1.19	-0.61	0.30	0.76
83	-1.93	-1.40	-0.86	0.04	0.85
		Sexual Motivation to Avoid			
4	-0.968	-0.49	-0.14	0.37	0.46
24	-1.624	-1.09	-0.71	-0.10	0.77
44	-1.764	-1.39	-1.09	-0.50	0.83
64	-1.949	-1.59	-1.23	-0.59	0.87
84	-1.77	-1.28	-0.89	-0.30	0.89
		Sexual Locus of Control			
5	-0.426	0.09	0.55	1.19	0.73
25	-0.422	0.24	0.75	1.41	0.76
45	-0.436	0.17	0.68	1.28	0.87
65	-0.479	0.18	0.75	1.36	0.86
85	-0.206	0.42	0.93	1.47	0.69

Supplement Table 1 (Cont.d) Confirmatory Factor Analysis of the Facets Within the Replication Sample

		Sexual Preoccupation			
6	-0.877	-0.23	0.27	0.95	0.90
26	-0.294	0.31	0.78	1.38	0.93
46	-0.444	0.19	0.66	1.31	0.81
66	-0.56	0.02	0.48	1.09	0.96
86	-0.484	0.12	0.58	1.14	0.97
		Sexual Assertiveness			
7	-0.744	-0.17	0.38	1.10	0.68
27	-0.873	-0.26	0.15	0.76	-0.74
47	-0.917	-0.29	0.17	0.85	-0.75
67	-0.811	-0.19	0.30	0.94	0.92
87	-0.829	-0.22	0.30	0.99	0.92
		Sexual Optimism			
8	-1.181	-0.67	-0.22	0.54	0.80
28	-1.478	-0.97	-0.43	0.37	0.86
48	-1.044	-0.42	0.09	0.74	0.67
68	-0.799	-0.09	0.52	1.26	-0.70
88	-0.574	0.12	0.62	1.23	-0.76
		Sexual Self-Blame			
9	-1.267	-0.65	-0.02	0.74	0.64
29	-1.432	-0.68	0.04	0.82	0.73
49	-1.209	-0.59	-0.02	0.73	0.76
69	-1.221	-0.47	0.18	0.93	0.89
89	-1.13	-0.44	0.21	0.95	0.80
		Sexual Self-Monitoring			
10	-0.934	-0.43	0.05	0.87	0.67
30	-0.58	-0.02	0.38	1.07	0.76
50	-0.965	-0.39	0.14	0.95	0.78
70	-0.518	0.08	0.50	1.17	0.79
90	-1.092	-0.54	-0.02	0.80	0.63
		Sexual Motivation			
11	-0.957	-0.50	-0.11	0.51	0.87
31	-1.095	-0.60	-0.14	0.57	0.81
51	-1.415	-1.06	-0.69	-0.06	0.87
71	-1.055	-0.60	-0.13	0.58	0.87
91	-0.753	-0.26	0.19	0.78	0.88

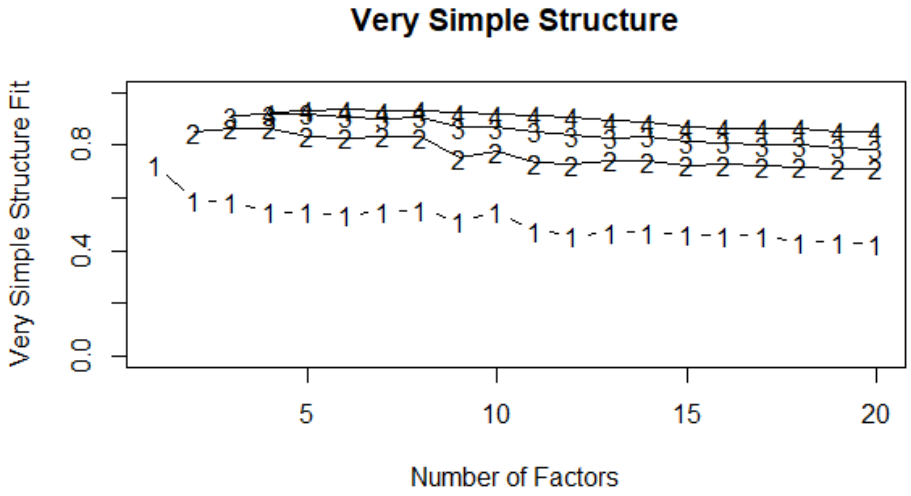
Supplement Table 1 (Cont.d) Confirmatory Factor Analysis of the Facets Within the Replication Sample

		Sexual Self-Management			
12	-1.594	-0.96	-0.23	0.68	0.59
32	-1.858	-1.13	-0.26	0.77	0.70
52	-1.801	-1.11	-0.31	0.64	0.74
72	-1.919	-1.25	-0.45	0.59	0.87
92	-1.833	-1.16	-0.38	0.62	0.85
		Sexual Self-Esteem			
13	-0.777	-0.25	0.21	0.83	0.72
33	-1.011	-0.40	0.15	0.82	0.89
53	-1.211	-0.6	0.0	0.7	0.9
73	-1.193	-0.6	-0.1	0.7	0.9
93	-1.037	-0.4	0.1	0.7	0.9
		Sexual Satisfaction			
14	-0.499	0.0	0.4	1.0	0.9
34	-0.717	-0.1	0.3	0.9	0.9
54	-0.967	-0.4	0.1	0.8	0.8
74	-0.719	-0.2	0.3	0.9	0.9
94	-0.753	-0.2	0.3	0.9	0.9
		Sexual Power			
15	0.206	0.8	1.2	1.7	0.7
35	-0.16	0.4	0.8	1.4	0.9
55	-0.078	0.5	0.9	1.5	0.9
75	0.08	0.7	1.1	1.6	0.8
95	0.03	0.6	1.0	1.6	0.9
		Sexual Self-Schema			
16	-1.527	-1.1	-0.6	0.1	0.9
36	-1.38	-0.9	-0.5	0.2	0.9
56	-1.616	-1.2	-0.8	0.0	0.9
76	-1.363	-0.9	-0.5	0.2	0.9
96	-1.529	-1.1	-0.6	0.1	0.9
		Sexual Fear			
17	-0.204	0.3	0.6	1.1	0.9
37	-0.096	0.4	0.7	1.1	0.9
57	-0.089	0.4	0.7	1.1	1.0
77	-0.895	-0.4	0.0	0.5	-0.9
97	-1.069	-0.6	-0.3	0.2	-0.8

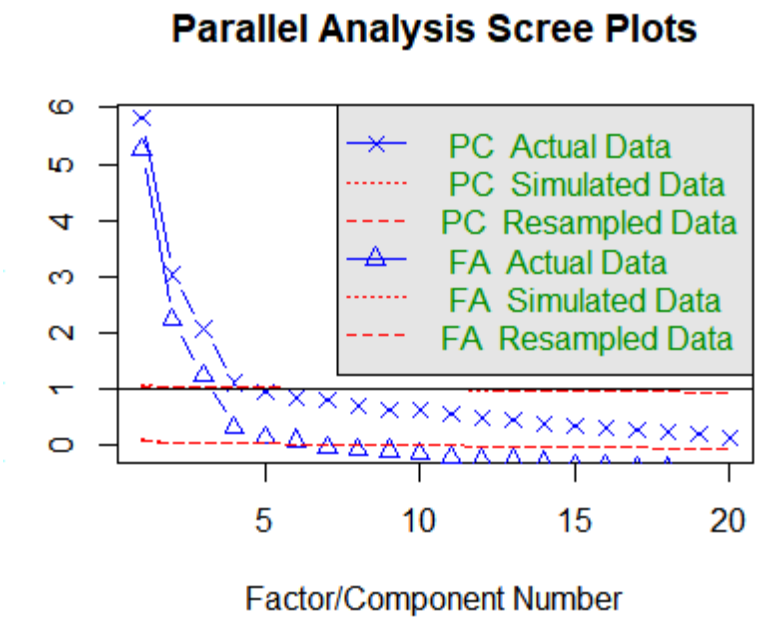
Supplement Table 1 (Cont.d) Confirmatory Factor Analysis of the Facets Within the Replication Sample

		Sexual Self-Prevention			
18	-1.36	-0.7	-0.1	0.7	0.6
38	-1.629	-1.0	-0.3	0.6	0.7
58	-1.273	-0.6	0.0	0.8	0.7
78	-1.608	-0.9	-0.2	0.7	0.9
98	-1.593	-0.9	-0.2	0.7	0.8
		Sexual Depression			
19	-0.38	0.2	0.6	1.1	0.9
39	-0.607	0.0	0.4	0.9	0.8
59	-0.474	0.1	0.4	0.9	0.9
79	-0.467	0.1	0.6	1.1	0.9
99	-0.277	0.3	0.6	1.1	0.9
		Sexual Personal Control			
20	-1.553	-1.1	-0.5	0.3	0.6
40	-1.805	-1.2	-0.4	0.6	0.7
60	-1.719	-1.0	-0.4	0.5	0.7
80	-1.734	-1.0	-0.3	0.7	0.7
100	-1.584	-1.1	-0.6	0.1	0.7

Supplement Figure 1A. Identification of the Number of Factors to Extract using Very Simple Structure



Supplement Figure 1B. Identification of the Number of Factors to Extract Using Parallel Analysis



Supplement Table 2A. Three Factor Solution from EFA in Discovery Sample

Facet	Factor 1	Factor 2	Factor 3
Sexual Anxiety	0.88	0.00	0.10
Sexual Efficacy	-0.63	0.22	0.24
Sexual Self Conscious	-0.20	0.55	0.19
Sexual Motivation to Avoid	-0.01	-0.23	0.27
Sexual Locus of Control	0.53	0.28	0.01
Sexual Preoccupation	0.23	0.72	-0.07
Sexual Assertiveness	-0.08	0.45	0.17
Sexual Optimism	-0.02	0.36	0.25
Sexual Self-Blame	0.29	-0.06	0.69
Sexual Self-Monitor	0.38	0.32	0.21
Sexual Motivation	-0.09	0.82	-0.07
Sexual Self-Management	-0.01	0.06	0.78
Sexual Self-Esteem	-0.68	0.30	0.18
Sexual Satisfaction	-0.74	0.11	0.13
Sexual Power	0.46	0.27	-0.08
Sexual Self-Schema	-0.23	0.54	0.09
Sexual Fear	0.42	-0.08	0.23
Sexual Self-Prevention	-0.08	-0.08	0.67
Sexual Depression	0.90	0.09	0.05
Sexual Personal Control	-0.25	0.01	0.66
Factor Intercorrelations			
Factor 1	1		
Factor 2	-0.22	1	
Factor 3	-0.25	0.3	1

Supplement Table 2B. Five Factor Solution from EFA in Discovery Sample

Facet	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Sexual Anxiety	-0.63	-0.08	0.03	0.37	0.17
Sexual Efficacy	0.63	0.18	0.09	-0.07	0.19
Sexual Self Conscious	0.11	0.57	0.07	-0.07	0.24
Sexual Motivation to Avoid	-0.07	-0.23	0.05	-0.10	0.44
Sexual Locus of Control	-0.18	0.15	0.05	0.45	-0.10
Sexual Preoccupation	-0.12	0.69	0.01	0.19	-0.10
Sexual Assertiveness	0.23	0.36	0.08	0.19	0.13
Sexual Optimism	0.13	0.30	0.10	0.14	0.25
Sexual Self Blame	-0.08	-0.08	0.85	0.13	-0.17
Sexual Self-Monitor	-0.04	0.18	0.14	0.41	0.09
Sexual Motivation	0.00	0.88	0.00	-0.03	-0.08
Sexual Self-Management	0.03	0.13	0.77	-0.11	0.07
Sexual Self Esteem	0.74	0.21	0.02	0.01	0.19
Sexual Satisfaction	0.98	-0.05	0.02	0.14	0.02
Sexual Power	0.00	0.07	-0.08	0.59	-0.09
Sexual Self-Schema	0.15	0.55	0.03	-0.06	0.13
Sexual Fear	-0.12	-0.23	0.06	0.37	0.26
Sexual Self-Prevention	0.17	-0.09	0.49	0.01	0.27
Sexual Depression	-0.82	0.10	0.02	0.21	0.15
Sexual Personal Control	0.15	0.09	0.54	-0.22	0.22

Supplement Table 2B(cont.d). Five Factor Solution from EFA in Discovery Sample

Factor Intercorrelations

Factor 1	1				
Factor 2	0.32	1			
Factor 3	0.18	0.22	1		
Factor 4	-0.49	0.04	0.03	1	
Factor 5	0.24	0.19	0.32	0.01	1

Supplement Table 3A. Four Factor Solution in Male Discovery Sample

Facet	Sexual Satisfaction	Sexual Agency	Sexual Desire	Sexual Anxiety
Sexual Anxiety	-0.62	0.03	0.00	0.44
Sexual Efficacy	0.76	0.15	0.09	-0.01
Sexual Self Conscious	0.20	0.21	0.48	0.04
Sexual Motivation to Avoid	0.10	0.21	-0.27	0.14
Sexual Locus of Control	-0.23	-0.08	0.06	0.41
Sexual Preoccupation	-0.17	-0.06	0.70	0.11
Sexual Assertiveness	0.32	0.08	0.30	0.26
Sexual Optimism	0.29	0.15	0.23	0.27
Sexual Self-Blame	-0.22	0.74	-0.07	0.06
Sexual Self Monitor	-0.03	0.10	0.17	0.43
Sexual Motivation	0.05	0.01	0.86	-0.07
Sexual Self-Management	-0.01	0.85	0.09	-0.05
Sexual Self-Esteem	0.88	0.04	0.12	0.10
Sexual Satisfaction	0.91	-0.02	-0.04	0.04
Sexual Power	-0.05	-0.24	0.08	0.51
Sexual Self-Schema	0.29	0.10	0.44	0.03
Sexual Fear	-0.06	0.07	-0.21	0.45
Sexual Self-Prevention	0.28	0.56	-0.16	0.18
Sexual Depression	-0.74	0.06	0.07	0.32
Sexual Personal Control	0.16	0.71	0.05	-0.12

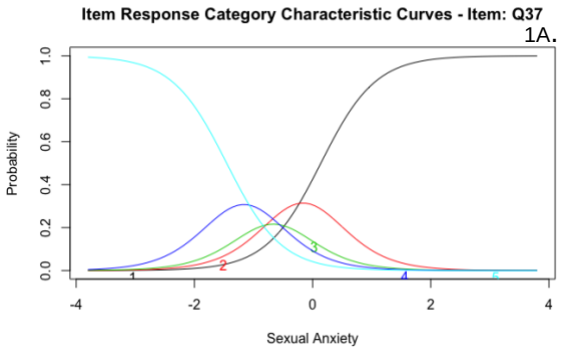
Supplement Table 3B. Four Factor Solution in Female Discovery Sample

Facet	Sexual Satisfaction	Sexual Agency	Sexual Desire	Sexual Anxiety
Sexual Anxiety	0.03	0.00	-0.09	0.88
Sexual Efficacy	0.44	0.14	0.21	-0.36
Sexual Self-Conscious	0.32	0.10	0.52	-0.06
Sexual Motivation to Avoid	0.30	0.14	-0.28	0.12
Sexual Locus of Control	-0.09	-0.01	0.32	0.47
Sexual Preoccupation	-0.01	-0.02	0.70	0.21
Sexual Assertiveness	0.28	0.09	0.40	0.05
Sexual Optimism	0.28	0.16	0.33	0.15
Sexual Self-Blame	-0.22	0.78	-0.03	0.15
Sexual Self Monitor	0.08	0.15	0.30	0.43
Sexual Motivation	-0.07	0.01	0.84	-0.10
Sexual Self-Management	-0.02	0.82	0.07	-0.07
Sexual Self-Esteem	0.51	0.07	0.27	-0.40
Sexual Satisfaction	0.37	0.08	0.09	-0.52
Sexual Power	-0.10	-0.07	0.28	0.45
Sexual Self-Schema	0.13	0.09	0.55	-0.14
Sexual Fear	0.31	0.06	-0.17	0.60
Sexual Self-Prevention	0.23	0.56	-0.10	0.03
Sexual Depression	-0.11	-0.01	0.07	0.81
Sexual Personal Control	0.25	0.57	0.00	-0.16

Supplement Table 3C. Four Factor Solution in Other Discovery Sample

Facet	Sexual Satisfaction	Sexual Agency	Sexual Desire	Sexual Anxiety
Sexual Anxiety	-0.29	-0.01	-0.13	0.71
Sexual Efficacy	0.78	0.11	0.00	-0.10
Sexual Self-Conscious	0.39	0.13	0.46	0.12
Sexual Motivation to Avoid	0.20	0.24	-0.13	0.07
Sexual Locus of Control	-0.06	-0.04	0.08	0.51
Sexual Preoccupation	0.10	-0.11	0.64	0.22
Sexual Assertiveness	0.48	0.05	0.23	0.38
Sexual Optimism	0.43	0.11	0.25	0.27
Sexual Self-Blame	-0.20	0.80	-0.01	0.08
Sexual Self-Monitor	0.21	0.03	0.23	0.53
Sexual Motivation	-0.05	0.05	0.97	-0.08
Sexual Self-Management	0.04	0.83	0.09	-0.05
Sexual Self-Esteem	0.83	-0.01	0.16	-0.10
Sexual Satisfaction	0.85	0.04	-0.10	-0.10
Sexual Power	-0.06	-0.05	0.07	0.60
Sexual Self-Schema	0.09	0.14	0.57	-0.02
Sexual Fear	0.16	0.17	-0.31	0.59
Sexual Self Prevention	0.20	0.59	-0.11	0.03
Sexual Depression	-0.40	0.01	0.11	0.65
Sexual Personal Control	0.28	0.56	0.06	-0.12

Supplement Figures 2A-D. Item Response Category Characteristic Curves for Sexual Anxiety Items in Discovery Sample



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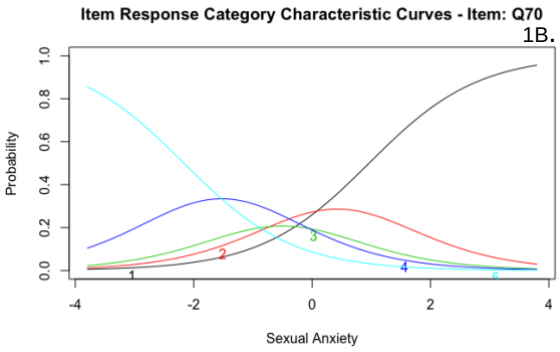

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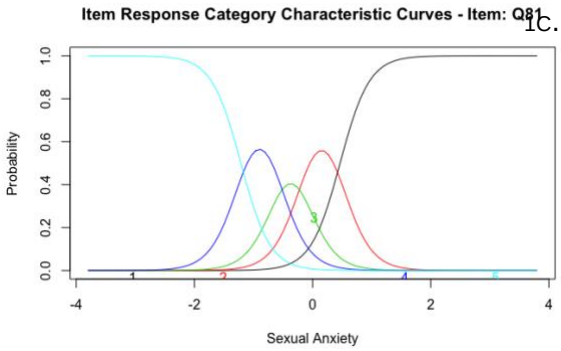

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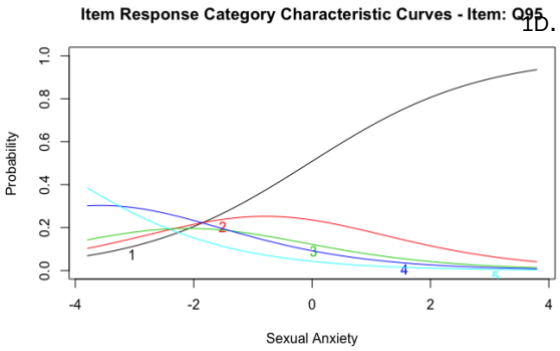
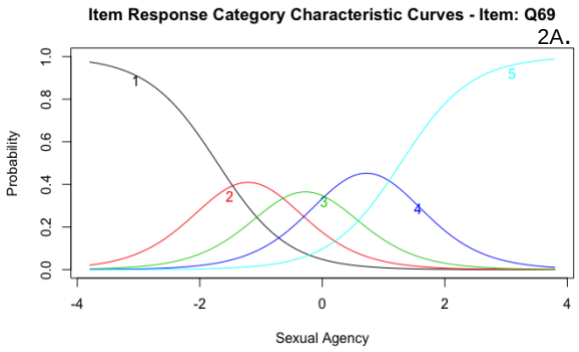
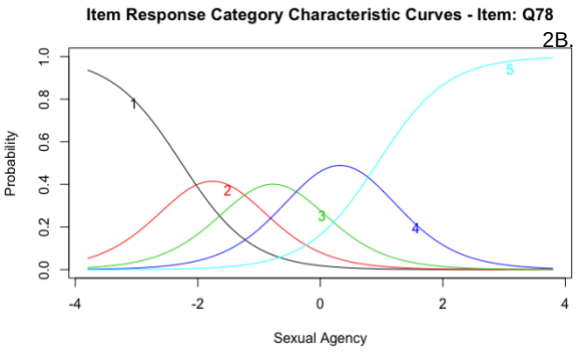


1D.

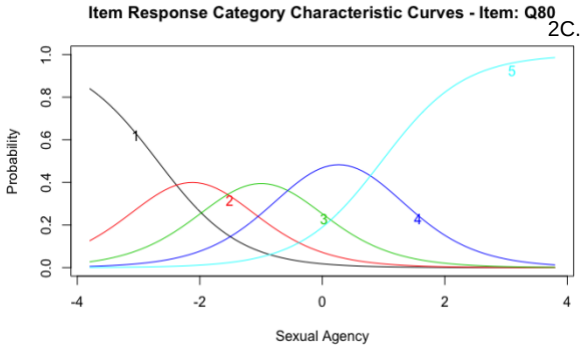
Supplement Figures 3A-D. Item Response Category Characteristic Curves for Sexual Agency Items in Discovery Sample



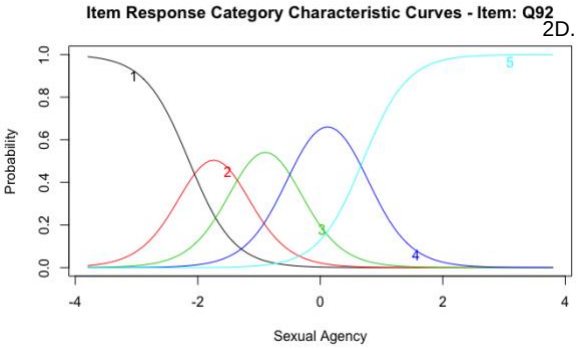
2A.



2B.

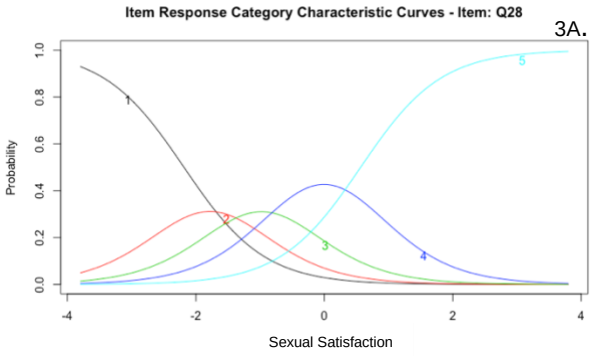


2C.

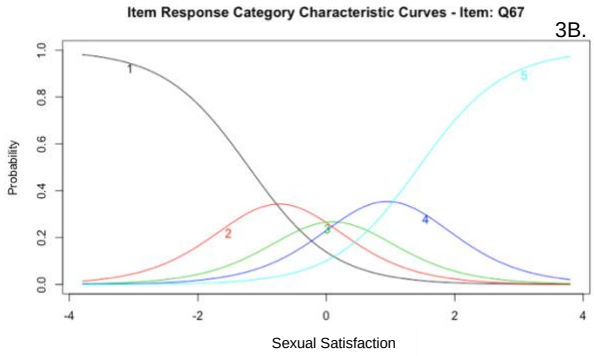


2D.

Supplement Figures 4A-D. Item Response Category Characteristic Curves for Sexual Satisfaction Items in Discovery Sample



3A.



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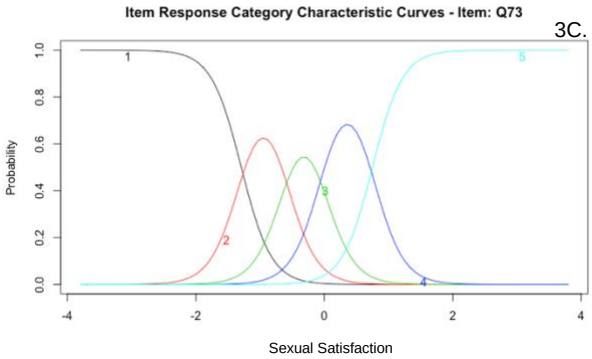
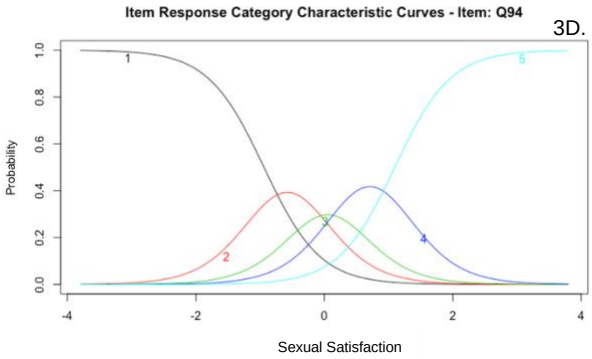
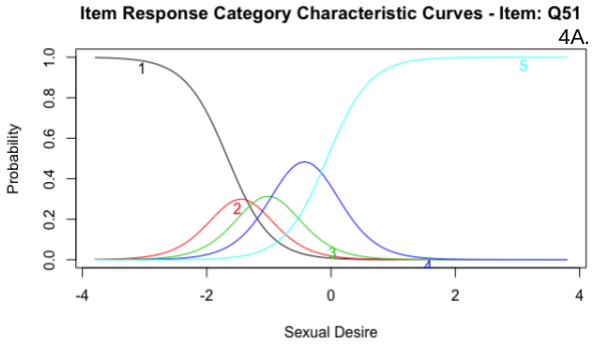


3C.

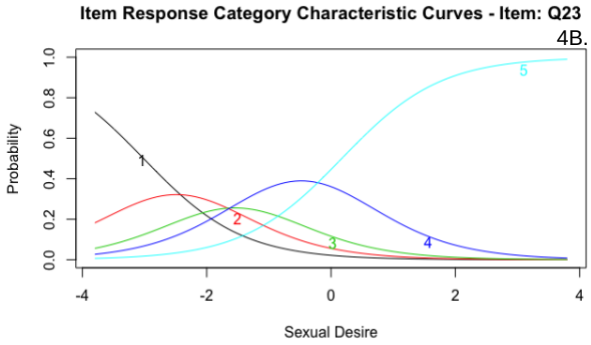


3D.

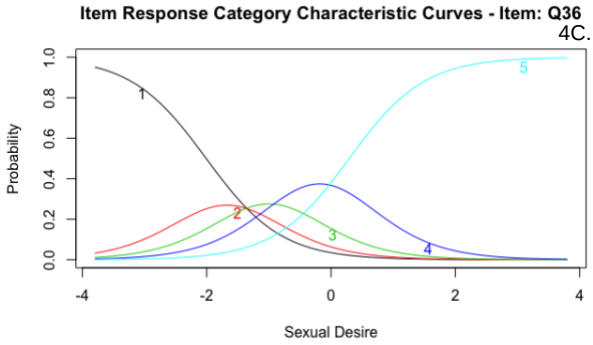
Supplement Figures 5A-D. Item Response Category Characteristic Curves for Sexual Desire Items in Discovery Sample



4A.



4B.



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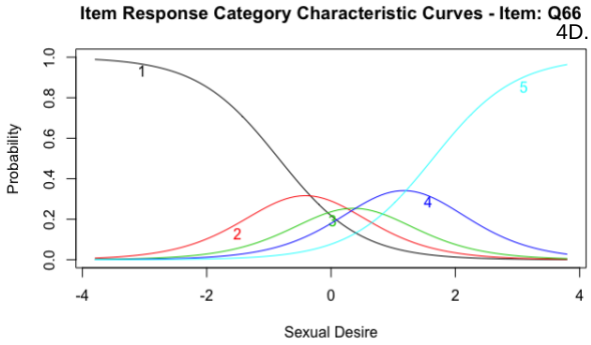

4D.

Supplement Table 4. Confirmatory Factor Analysis of the Short form Within the Replication Sample

Item	T1	T2	T3	T4	Loading
		Sexual Agency			
70	-0.44	0.14	0.56	1.17	0.48
81	-0.42	0.22	0.57	1.13	0.89
95	0.05	0.64	1.03	1.67	0.43
37	-0.1	0.37	0.7	1.17	0.84
		Sexual Anxiety			
69	-1.18	-0.43	0.17	0.92	0.58
92	-1.88	-1.16	-0.39	0.6	0.77
78	-1.58	-0.89	-0.19	0.66	0.77
80	-1.69	-0.95	-0.26	0.69	0.66
		Sexual Desire			
23	-1.76	-1.14	-0.63	0.16	0.85
66	-0.46	0.13	0.57	1.13	0.45
51	-1.41	-1	-0.62	0.07	0.67
36	-1.38	-0.92	-0.44	0.24	0.74
		Sexual Satisfaction			
67	-0.82	-0.19	0.31	0.97	0.73
28	-1.5	-0.98	-0.46	0.399	0.727
73	-1.24	-0.63	-0.16	0.64	0.89
94	-0.08	-0.19	0.24	0.86	0.74

Supplement Table 5. Summary of Exploratory Factor Analysis Results for MSSCQ Factors Using 100 Items from the Discovery Data

Item	Sexual Satisfaction	Sexual Desire	Sexual Agency	Sexual Anxiety
Q1	-0.40	-0.18	0.08	0.33
Q2	0.56	0.09	0.08	0.00
Q3	0.25	0.46	0.10	-0.06
Q4	0.08	-0.19	0.12	0.06
Q5	-0.18	0.19	0.04	0.25
Q6	-0.15	0.72	0.02	0.11
Q7	0.36	0.45	0.04	-0.02
Q8	0.43	0.31	0.10	-0.03
Q9	-0.19	-0.01	0.45	0.00
Q10	0.22	0.22	0.14	0.27
Q11	0.11	0.73	-0.02	-0.03
Q12	0.21	0.16	0.42	-0.13
Q13	0.53	0.26	0.12	0.10
Q14	0.81	-0.22	-0.01	0.11
Q15	0.11	0.08	-0.14	0.62
Q16	0.18	0.57	0.09	0.02
Q17	-0.16	-0.49	0.13	0.38
Q18	0.23	-0.17	0.40	0.13
Q19	-0.68	0.16	0.10	0.20
Q20	0.13	0.10	0.40	-0.08
Q21	-0.56	0.11	0.11	0.31
Q22	0.67	0.11	0.12	-0.02
Q23	0.28	0.45	0.15	-0.02
Q24	0.17	-0.32	0.20	0.08
Q25	-0.20	0.11	0.01	0.35
Q26	-0.15	0.68	0.01	0.18
Q27	-0.30	-0.27	0.07	0.24
Q28	0.52	0.17	0.15	-0.03
Q29	-0.20	-0.03	0.56	-0.02
Q30	-0.14	0.02	0.08	0.46
Q31	0.14	0.69	0.03	0.01
Q32	0.06	0.11	0.59	-0.07
Q33	0.76	0.10	0.09	0.06
Q34	0.88	-0.14	0.02	0.10

Supplement Table 5 (cont.d) Summary of Exploratory Factor Analysis Results for MSSCQ Factors Using 100 Items from the Discovery Data

Item	Sexual Satisfaction	Sexual Desire	Sexual Agency	Sexual Anxiety
Q37	-0.23	-0.49	0.12	0.41
Q38	0.36	-0.10	0.46	0.02
Q39	-0.72	0.24	0.10	0.10
Q40	0.05	0.01	0.52	-0.13
Q41	-0.53	-0.13	0.11	0.35
Q42	0.57	0.26	0.14	-0.01
Q43	0.08	0.37	0.17	0.16
Q44	0.14	-0.26	0.19	0.08
Q45	-0.26	0.22	0.02	0.34
Q46	-0.17	0.66	0.00	0.19
Q47	-0.28	-0.29	0.09	0.28
Q48	0.51	-0.04	0.18	-0.02
Q49	-0.10	-0.01	0.62	0.01
Q50	0.15	0.20	0.18	0.40
Q51	-0.14	0.76	0.04	-0.04
Q52	-0.01	0.08	0.64	-0.07
Q53	0.79	0.04	0.08	0.03
Q54	0.75	0.18	0.02	0.06
Q55	0.11	0.08	-0.17	0.68
Q56	0.21	0.39	0.12	0.03
Q57	-0.22	-0.49	0.13	0.42
Q58	0.17	-0.14	0.51	0.09
Q59	-0.69	0.04	0.10	0.21
Q60	0.38	-0.04	0.44	-0.16
Q61	-0.60	0.10	0.11	0.31
Q62	0.70	0.01	0.17	0.01
Q63	0.25	0.34	0.21	0.10
Q64	0.15	-0.20	0.22	0.10
Q65	-0.23	0.19	0.01	0.40
Q66	-0.18	0.74	0.02	0.17
Q67	0.38	0.41	0.04	-0.13
Q68	-0.40	0.07	-0.01	0.22
Q69	-0.16	-0.03	0.68	0.01
Q70	-0.17	0.05	0.11	0.48
Q71	-0.09	0.77	0.04	0.00

Supplement Table 5 (cont.d). Summary of Exploratory Factor Analysis Results for MSSCQ Factors Using 100 Items from the Discovery Data

Q72	-0.01	0.06	0.70	-0.08
Q73	0.75	0.17	0.07	-0.03
Q74	0.79	0.11	-0.02	0.06
Q75	0.02	0.07	-0.10	0.62
Q76	0.36	0.36	0.06	-0.01
Q77	0.28	0.50	-0.04	-0.24
Q78	0.22	-0.04	0.59	-0.01
Q79	-0.58	0.01	0.10	0.24
Q80	0.05	0.01	0.58	-0.11
Q81	-0.46	-0.20	0.11	0.40
Q82	0.63	0.06	0.18	-0.01
Q83	0.26	0.36	0.21	0.02
Q84	0.17	-0.28	0.22	0.10
Q85	-0.11	0.10	-0.01	0.41
Q86	-0.16	0.73	0.01	0.17
Q87	0.37	0.43	0.04	-0.12
Q88	-0.52	0.02	0.03	0.28
Q89	-0.15	0.00	0.65	-0.01
Q90	0.16	0.16	0.21	0.32
Q91	0.17	0.69	-0.01	-0.01
Q92	0.00	0.04	0.70	-0.08
Q93	0.72	0.20	0.04	-0.03
Q94	0.88	-0.06	-0.01	0.05
Q95	0.08	0.06	-0.16	0.71
Q96	0.28	0.37	0.09	0.01
Q97	0.20	0.54	-0.02	-0.23
Q98	0.20	-0.04	0.57	0.03
Q99	-0.57	-0.02	0.10	0.28
Q100	0.27	0.07	0.36	-0.19

Appendix A: The Full SSC

The Multidimensional Sexual Self-Concept Questionnaire (MSSCQ)

1. I feel anxious when I think about the sexual aspects of my life.
2. I have the ability to take care of any sexual needs and desires that I may have.
3. I am very aware of my sexual feelings and needs.
4. I am motivated to avoid engaging in “risky” (i.e., unprotected) sexual behavior.
5. The sexual aspects of my life are determined mostly by chance happenings.
6. I think about sex “all the time.”
7. I’m very assertive about the sexual aspects of my life.
8. I expect that the sexual aspects of my life will be positive and rewarding in the future.
9. I would be to blame, if the sexual aspects of my life were not going very well.
10. I notice how others perceive and react to the sexual aspects of my life.
11. I’m motivated to be sexually active.
12. If I were to experience a sexual problem, I myself would in control of whether this improved.
13. I derive a sense of self-pride from the way I handle my own sexual needs and desires.
14. I am satisfied with the way my sexual needs are currently being met.
15. My sexual behaviors are determined largely by other more powerful and influential people.
16. Not only would I be a good sexual partner, but it’s quite important to me that I be a good sexual partner.
17. I am afraid of becoming sexual involved with another person.
18. If I am careful, then I will be able to prevent myself from having any sexual problems.
19. I am depressed about the sexual aspects of my life.
20. My sexuality is something that I am largely responsible for.
21. I worry about the sexual aspects of my life.
22. I am competent enough to make sure that my sexual needs are fulfilled.
23. I am very aware of my sexual motivations and desires.
24. I am motivated to keep myself from having any “risky” sexual behavior (e.g., exposure to sexual diseases).
25. Most things that affect the sexual aspects of my life happen to me by accident.
26. I think about sex more than anything else.
27. I’m not very direct about voicing my sexual needs and preferences. (R)
28. I believe that in the future the sexual aspects of my life will be healthy and positive.
29. If the sexual aspects of my life were to go wrong, I would be the person to blame.
30. I’m concerned with how others evaluate my own sexual beliefs and behaviors.
31. I’m motivated to devote time and effort to sex.
32. If I were to experiences a sexual problem, my own behavior would determine whether I improved.
33. I am proud of the way I deal with and handle my own sexual desires and needs.
34. I am satisfied with the status of my own sexual fulfillment.
35. My sexual behaviors are largely controlled by people other than myself (e.g., my partner, friends, family).
36. Not only would I be a skilled sexual partner, but it’s very important to me that I be a skilled sexual partner.
37. I have a fear of sexual relationships.

The Multidimensional Sexual Self-Concept Questionnaire (MSSCQ) (cont.d)

38. I can pretty much prevent myself from developing sexual problems by taking good care of myself.
39. I am disappointed about the quality of my sex life.
40. The sexual aspects of my life are determined in large part by my own behavior.
41. Thinking about the sexual aspects of my life often leaves me with an uneasy feeling.
42. I have the skills and ability to ensure rewarding sexual behaviors for myself.
43. I tend to think about my own sexual beliefs and attitudes.
44. I want to avoid engaging in sex where I might be exposed to sexual diseases.
45. Luck plays a big part in influencing the sexual aspects of my life.
46. I tend to be preoccupied with sex.
47. I am somewhat passive about expressing my own sexual desires. (R)
48. I do not expect to suffer any sexual problems or frustrations in the future.
49. If I were to develop a sexual disorder, then I would be to blame for not taking good care of myself.
50. I am quick to notice other people's reactions to the sexual aspects of my own life.
51. I have a desire to be sexually active.
52. If I were to become sexually maladjusted, I myself would be responsible for making myself better.
53. I am pleased with how I handle my own sexual tendencies and behaviors.
54. The sexual aspects of my life are personally gratifying to me.
55. My sexual behavior is determined by the actions of powerful others (e.g., my partner, friends, family).
56. Not only could I relate well to a sexual partner, but it's important to me that I be able to do so.
57. I am fearful of engaging sexual activity.
58. If just I look out for myself, then I will be able to avoid any sexual problems in the future.
59. I feel discouraged about my sex life.
60. I am in control of and am responsible for the sexual aspects of my life.
61. I worry about the sexual aspects of my life.
62. I am able to cope with and to handle my own sexual needs and wants.
63. I'm very alert to changes in my sexual thoughts, feelings, and desires.
64. I really want to prevent myself from being exposed to sexual diseases.
65. The sexual aspects of my life are largely a matter of (good or bad) fortune.
66. I'm constantly thinking about having sex.
67. I do not hesitate to ask for what I want in a sexual relationship.
68. I will probably experience some sexual problems in the future. (R)
69. If I were to develop a sexual problem, then it would be my own fault for letting it happen.
70. I'm concerned about how the sexual aspects of my life appear to others.
71. It's important to me that I involve myself in sexual activity.
72. If I developed any sexual problems, my recovery would depend in large part on what I myself would do.
73. I have positive feelings about the way I approach my own sexual needs and desires.
74. The sexual aspects of my life are satisfactory, compared to most people's.
75. In order to be sexually active, I have to conform to other more powerful individuals.
76. I am able to "connect" well with a sexual partner, and it's important to me that I am able to do so.
77. I don't have much fear about engaging in sex. (R)
78. I will be able to avoid any sexual problems, if I just take good care of myself.

The Multidimensional Sexual Self-Concept Questionnaire (MSSCQ) (cont.d)

79. I feel unhappy about my sexual experiences.
80. The main thing which affects the sexual aspects of my life is what I myself do.
81. I feel nervous when I think about the sexual aspects of my life.
82. I have the capability to take care of my own sexual needs and desires.
83. I am very aware of the sexual aspects of myself (e.g. habits, thoughts, beliefs).
84. I am really motivated to avoid any sexual activity that might expose me to sexual diseases.
85. The sexual aspects of my life are a matter of fate (destiny).
86. I think about sex the majority of the time.
87. When it comes to sex, I usually ask for what I want.
88. I anticipate that in the future the sexual aspects of my life will be frustrating. (R)
89. If something went wrong with my own sexuality, then it would be my own fault.
90. I'm aware of the public impression created by my own sexual behaviors and attitudes.
91. I strive to keep myself sexually active.
92. If I developed a sexual disorder, my recovery would depend on how I myself dealt with the problem.
93. I feel good about the way I express my own sexual needs and desires.
94. I am satisfied with the sexual aspects of my life.
95. My sexual behavior is mostly determined by people who have influence and control over me.
96. Not only am I be capable of relating to a sexual partner, but it's important to me that I relate very well.
97. I'm not afraid of becoming sexually active. (R)
98. If I just pay careful attention, I'll be able to prevent myself from having any sexual problems.
99. I feel sad when I think about my sexual experiences.
100. My sexuality is something that I myself am in charge of.

```
COMPUTE MSQS1=SUM(MSQ1,MSQ21,MSQ41,MSQ61,MSQ81)
COMPUTEMSQS2=SUM(MSQ2,MSQ22,MSQ42,MSQ62,MSQ82)
COMPUTE MSQS3=SUM(MSQ3,MSQ23,MSQ43,MSQ63,MSQ83)
COMPUTEMSQS4=SUM(MSQ4,MSQ24,MSQ44,MSQ64,MSQ84)
COMPUTEMSQS5=SUM(MSQ5,MSQ25,MSQ45,MSQ65,MSQ85)
COMPUTEMSQS6=SUM(MSQ6,MSQ26,MSQ46,MSQ66,MSQ86)
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COMPUTE MSQS18=SUM(MSQ18,MSQ38,MSQ58,MSQ78,MSQ98)
COMPUTE MSQS19=SUM(MSQ19,MSQ39,MSQ59,MSQ79,MSQ99)
COMPUTE MSQS20=SUM(MSQ20,MSQ40,MSQ60,MSQ80,MSQ100)
```

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LABELS

VAR LABELS MSQS1

VAR LABELS MSQS2 SEXUAL SELF-EFFICACY
VAR LABELS MSQS3 SEXUAL CONSCIOUSNESS
VAR LABELS MSQS4 SEXUAL MOTIVATION TO AVOID RISKY SEX
BEHAVIOR
VAR LABELS MSQS5 CHANCE LUCK SEXUAL LOCUS OF CONTROL
VAR LABELS MSQS6 SEXUAL PREOCCUPATION
VAR LABELS MSQS7 SEXUAL ASSERTIVENESS
VAR LABELS MSQS8 SEXUAL OPTIMISM
VAR LABELS MSQS9 SEXUAL PROBLEMS SELF-BLAME
VAR LABELS MSQS10 SEXUAL SELF-MONITORING
VAR LABELS MSQS11 MOTIVATION TO BE SEXUALLY ACTIVE
```

Scoring Instructions for the Multidimensional Sexual Self-Concept Questionnaire (MSSCQ) (cont.d)

VAR LABELS MSQS12 SEXUAL PROBLEM SELF IMPROVEMENT
VAR LABELS MSQS13 SEXUAL SELF-ESTEEM
VAR LABELS MSQS14 SEXUAL SATISFACTION
VAR LABELS MSQS15 POWERFUL OTHER SEXUAL LOCUS OF CONTROL
VAR LABELS MSQS16 SEXUAL SELF-SCHEMATA
VAR LABELS MSQS17 SEXUAL FEAR
VAR LABELS MSQS18 SEXUAL PROBLEM PREVENTION
VAR LABELS MSQS19 SEXUAL DEPRESSION
VAR LABELS MSQS20 INTERNAL SEXUAL LOCUS OF CONTROL

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